



2010

Norroway Pond: Conditions at Grove Street

Recommended Citation

Randolph Community Middle School, Randolph, Massachusetts (2010). *Norroway Pond: Conditions at Grove Street*. In Watershed Access Lab Projects. Project 96.
Available at: http://vc.bridgew.edu/wal_projects/96

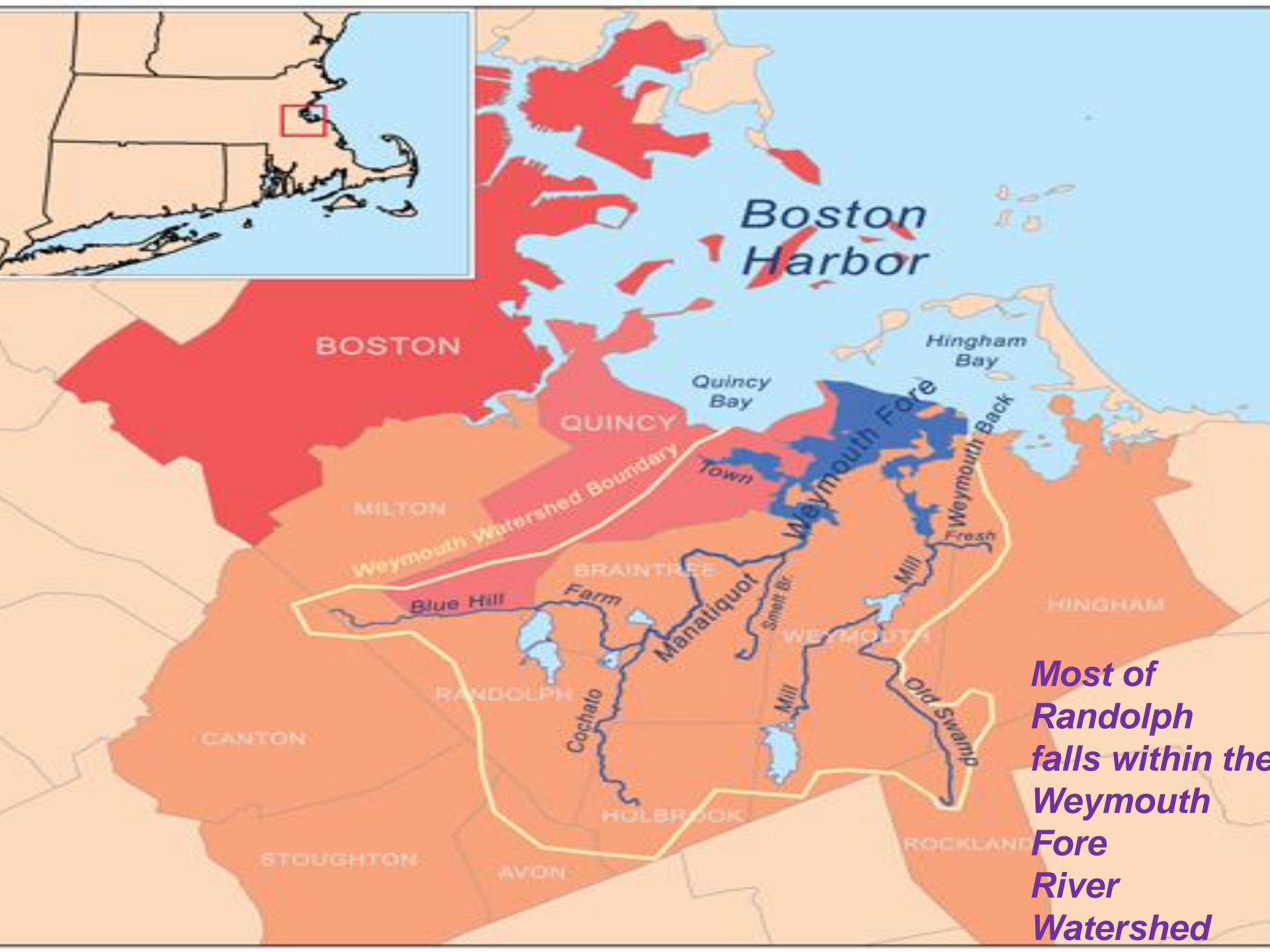
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Norroway Pond

Conditions at Grove Street

By: Kevin Lam
Teacher: Diane Brown





Boston Harbor

BOSTON

QUINCY

MILTON

Weymouth Watershed Boundary

Blue Hill

Farm

Cochato

Manaliquot

Small Br.

Mill

Weymouth Fore

Weymouth Back

Fresh

Hingham Bay

Quincy Bay

HINGHAM

CANTON

RANDOLPH

STOUGHTON

AVON

HOLBROOK

ROCKLAND

Most of Randolph falls within the Weymouth Fore River Watershed

Starting Off



- Water sampling was done in January
- Visited one stream in Randolph, located between Grove Street and West Street
- Goal was to find 200 specimens or more for our research
- Some materials were missing when we went to collect our specimens
- The stream bottom had a great deal of sludge

Where in the World is Grove Street?





This stream passes under
three streets; Warren St.(rt.
139, West St. &
Grove St., eventually
running into Norroway
Pond.

All three streets connect
to Main St. Rt. 139 is a
heavily traveled road
connecting Randolph with
Stoughton and Holbrook.





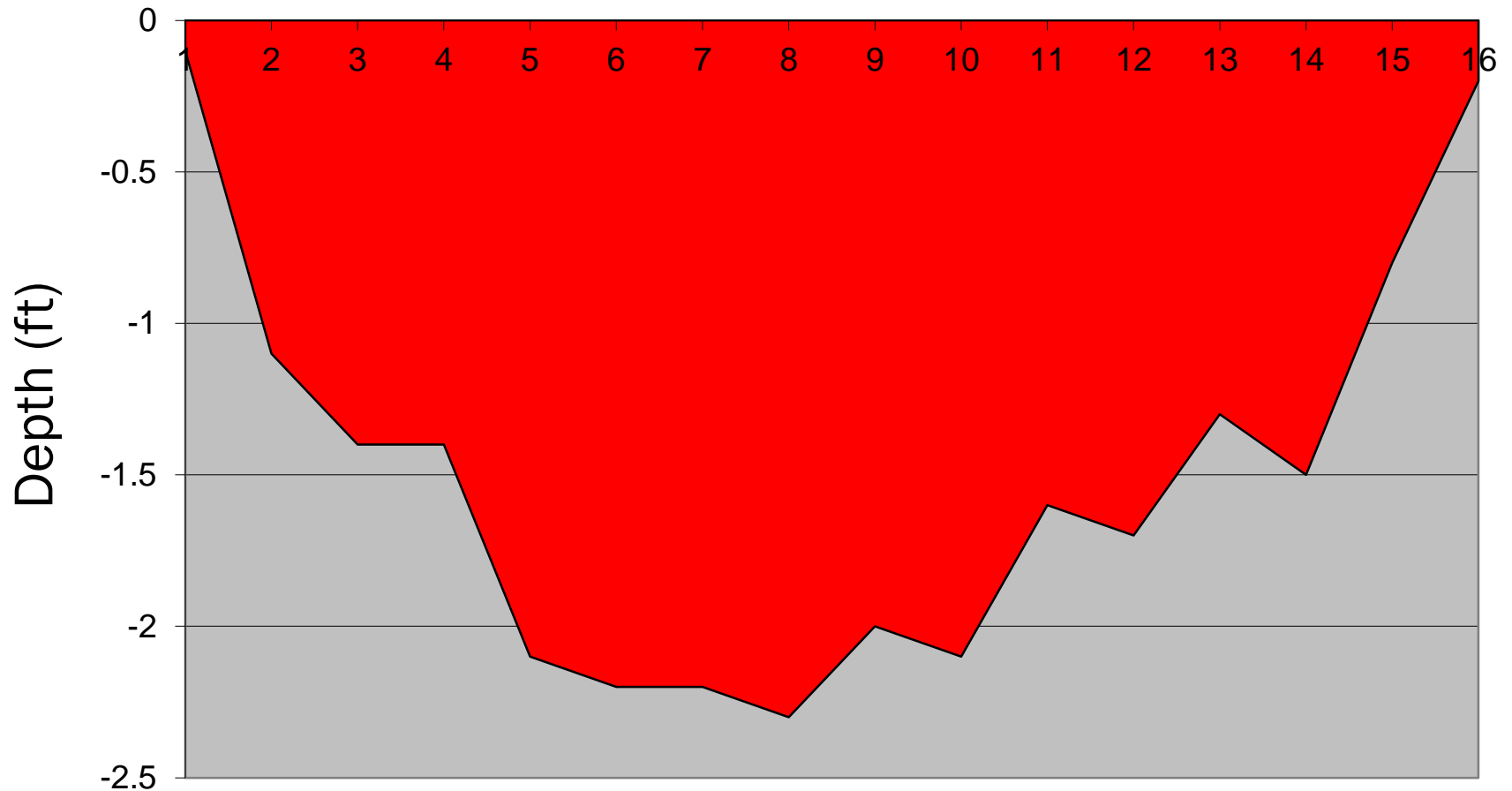
A walking trail
runs along the
stream
between West
and Grove St.

The walking trail
passes over the
stream at one
point.

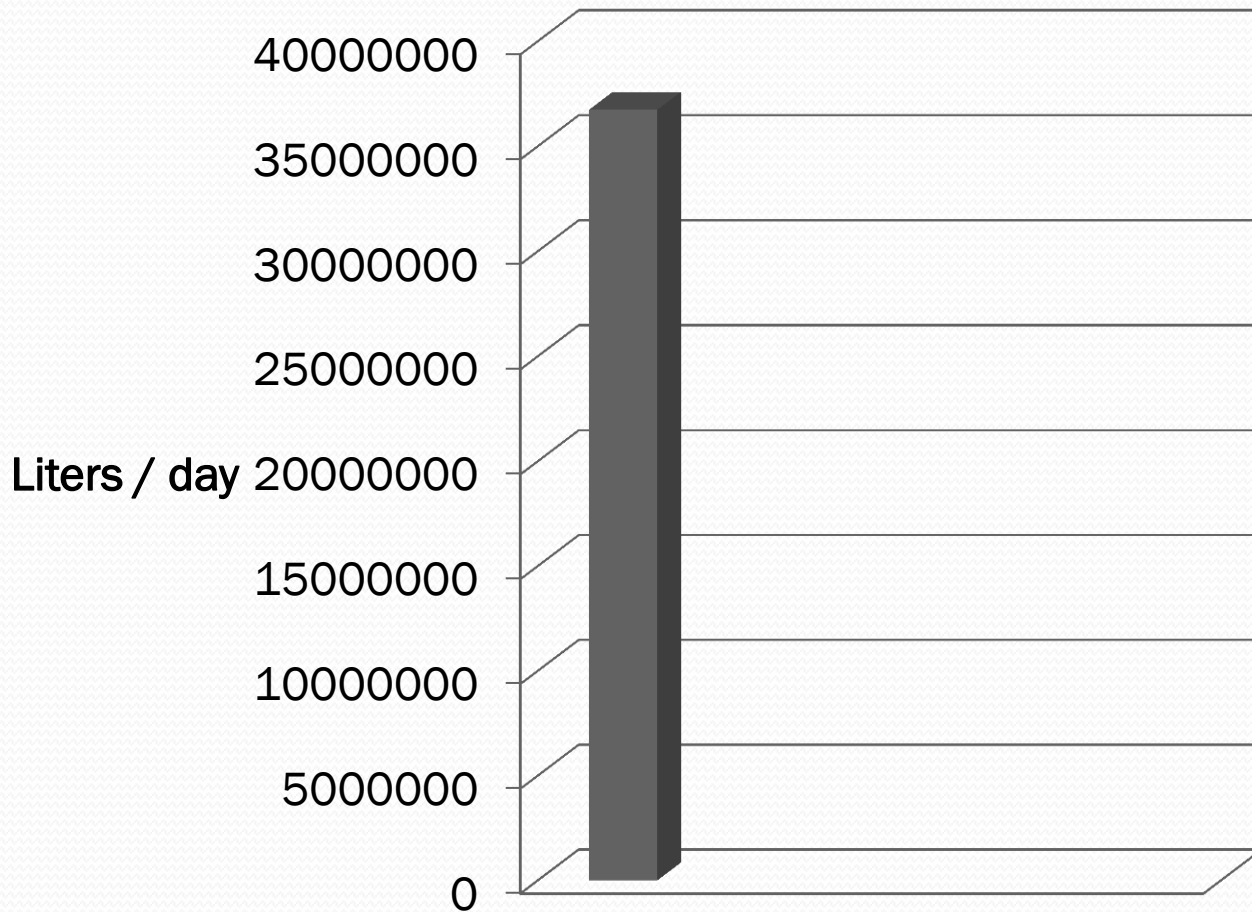
The water
was
flowing
pretty
quickly the
day we
went out.



Grove Street Depth Profile 2010



Water Discharge per Day



Discharge is found by multiplying the speed of the water by the volume of the water flowing down the stream.

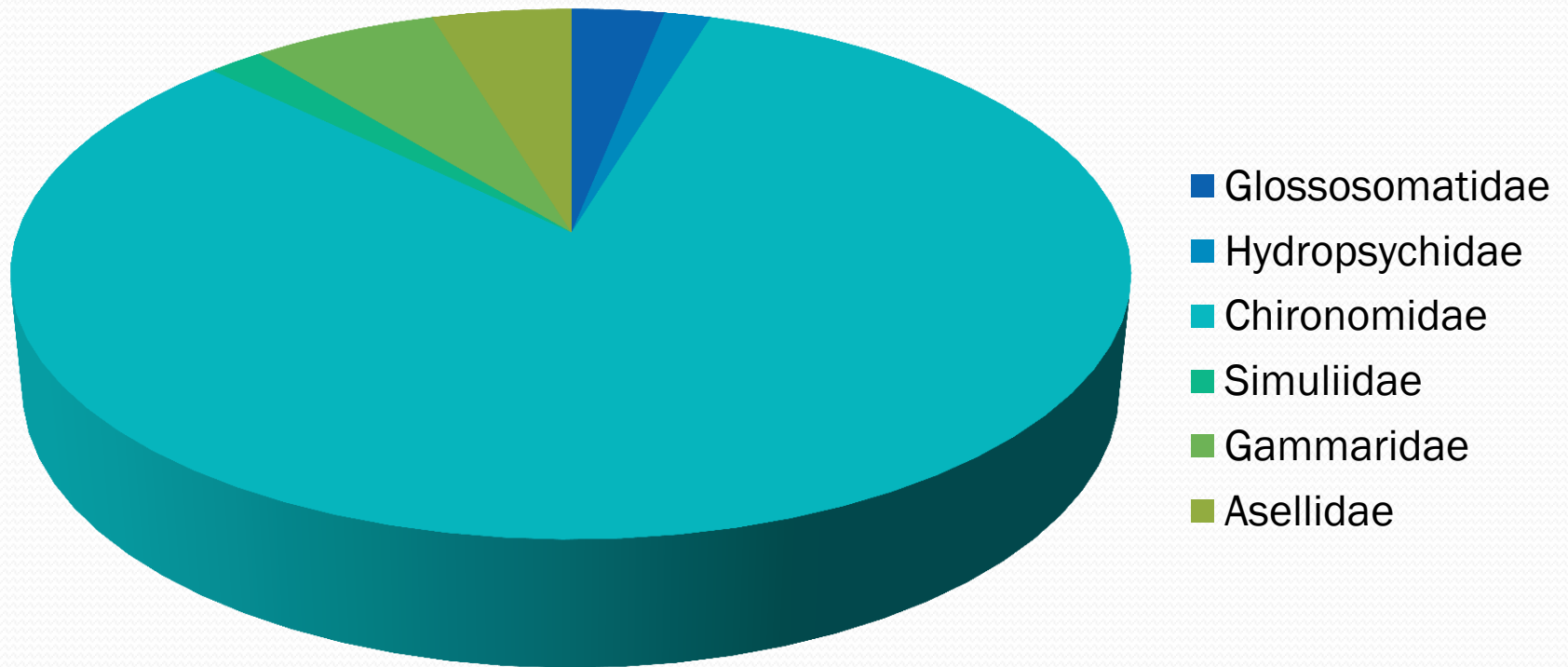
Macroinvertebrate Sampling

- Samples may have been lost due to missing the larger container of ethanol to save in
- There was a great deal of sludge in the kick net which was difficult to sift
- Each of the twelve tray sections needed to be sorted to in order to collect 200+ macroinvertebrates

Stream Biomonitoring: Level 2 Family Biotic Index

Major Group/Family	Count	Avg. Organic Density	Group or Family %	Tolerance Value	Tol. X Avg. Org. Density
Trichoptera					
<i>Glossosomidae</i>	2	2	.008	0	0
<i>Hydropsycidae</i>	1	1	.004	3	3
Diptera					
<i>Chironomidae</i>	53	53	.22	7	371
<i>Simuliidae</i>	181	181	.74	6	1086
Amphipoda					
<i>Gammaridae</i>	4	4	.02	4	16
Isopoda					
<i>Asellidae</i>	3	3	.01	8	24
totals					1500
Total grids picked	12		(DAF) Density Adjustment Factor	1	FBI(family biotic index) 6.15

% of Dominant Families in Sample at Grove St. January 2010



So what does this all mean?

- The water at Grove Street is in bad condition.
- The FBI calculated to 6.15 indicating that our stream is moderately impaired.
- We found very few non-tolerant insects, which is a sign that our stream is polluted.
- Because our stream runs under Rt. 139, West and Grove Street, there is potential for a great deal of run-off from salt and sand.
- We saw a lot of trash and debris in and along the stream which could also affect the water quality.